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## Modified Checklist for Autism in Toddlers (M-CHAT)

52

**Purpose** As the original Checklist for Autism in Toddlers (CHAT) requires a home health visitor to observe the child in the family environment, the M-CHAT was designed to accommodate health-care systems in which home visits are not covered. Both questionnaires assess the risk for autism spectrum disorders (ASD) – the M-CHAT is designed to do so using only the behavioral reports of parents. Consisting of 23 “yes or no” questions, the instrument can be quickly administered by a family doctor at the time of the child’s 18-month checkup, or can be used by specialists and other professionals for screening, research, or educational purposes. Though researchers have only recently begun to explore the manifestation of sleep disorders in children with autism and other Pervasive Developmental Disorders, one review of the literature conducted by Johnson [1] suggests that between 34% and 80% of these children have a sleep problem. Thus, these children may be particularly overrepresented in a sleep clinic setting. The ability to properly screen for developmental disorders should be considered an asset for sleep specialists of all kinds.

**Population for Testing** Studies validating the instrument have used sample of toddlers between 16 and 30 months of age.

**Administration** The questionnaire can be administered through interview or can be completed by parents with pencil and paper. About 5–10 min should be enough time for completion.

**Reliability and Validity** Robins and colleagues [2] found the test possessed an internal reliability of  $\alpha = .85$ , a sensitivity of .87, specificity of .99, a positive predictive power of .80, and a negative predictive power of .99.

**Obtaining a Copy** The questionnaire is free for download and can be found, along with scoring materials, at: [www.firstsigns.org](http://www.firstsigns.org)

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**Scoring** Each “yes or no” answer is assigned a value of “pass” or “fail” using the scoring sheet provided at [www.firstsigns.org](http://www.firstsigns.org). Those behaviors that are considered indicative of either autism or another pervasive developmental disorder count as “fails” – a total of three failed items may be cause for concern and the child should be referred for evaluation by a specialist. Developers also identified 6 of the 23 items as highly discriminating factors in evaluating autism. Questions 7, 14, 2, 9, 15, and 13 ask parents to assess their child’s response to his or her name, ability to use and understand pointing gestures, interest in other children, showing behavior, and ability to imitate. A “fail” on only two of these items would also represent a fail on the checklist.

### Instructions and Permissions for Use of the M-CHAT

The Modified Checklist for Autism in Toddlers (M-CHAT; Robins, Fein, & Barton, 1999) is available for free download for clinical, research, and educational purposes. There are two authorized websites: the M-CHAT and supplemental materials can be downloaded from [www.firstsigns.org](http://www.firstsigns.org) or from Dr. Robins' website, at <http://www2.gsu.edu/~wwwpsy/faculty/robins.htm>

Users should be aware that the M-CHAT continues to be studied, and may be revised in the future. Any revisions will be posted to the two websites noted above.

Furthermore, the M-CHAT is a copyrighted instrument, and use of the M-CHAT must follow these guidelines:

- (1) Reprints/reproductions of the M-CHAT must include the copyright at the bottom (© 1999 Robins, Fein, & Barton). No modifications can be made to items or instructions without permission from the authors.
- (2) The M-CHAT must be used in its entirety. There is no evidence that using a subset of items will be valid.
- (3) Parties interested in reproducing the M-CHAT in print (e.g., a book or journal article) or electronically (e.g., as part of digital medical records or software packages) must contact Diana Robins to request permission ([drobins@gsu.edu](mailto:drobins@gsu.edu)).

### Instructions for Use

The M-CHAT is validated for screening toddlers between 16 and 30 months of age, to assess risk for autism spectrum disorders (ASD). The M-CHAT can be administered and scored as part of a well-child check-up, and also can be used by specialists or other professionals to assess risk for ASD. The primary goal of the M-CHAT was to maximize sensitivity, meaning to detect as many cases of ASD as possible. Therefore, there is a high false positive rate, meaning that not all children who score at risk for ASD will be diagnosed with ASD. To address this, we have developed a structured follow-up interview for use in conjunction with the M-CHAT; it is available at the two websites listed above. Users should be aware that even with the follow-up questions, a significant number of the children who fail the M-CHAT will not be diagnosed with an ASD; however, these children are at risk for other developmental disorders or delays, and therefore, evaluation is warranted for any child who fails the screening.

The M-CHAT can be scored in less than two minutes. Scoring instructions can be downloaded from <http://www2.gsu.edu/~wwwpsy/faculty/robins.htm> or [www.firstsigns.org](http://www.firstsigns.org). We also have developed a scoring template, which is available on these websites; when printed on an overhead transparency and laid over the completed M-CHAT, it facilitates scoring. Please note that minor differences in printers may cause your scoring template not to line up exactly with the printed M-CHAT.

Children who fail more than 3 items total or 2 critical items (particularly if these scores remain elevated after the follow-up interview) should be referred for diagnostic evaluation by a specialist trained to evaluate ASD in very young children. In addition, children for whom there are physician, parent, or other professional's concerns about ASD should be referred for evaluation, given that it is unlikely for any screening instrument to have 100% sensitivity.

**M-CHAT**

Please fill out the following about how your child usually is. Please try to answer every question. If the behavior is rare (e.g., you've seen it once or twice), please answer as if the child does not do it.

1. Does your child enjoy being swung, bounced on your knee, etc.?	Yes	No
2. Does your child take an interest in other children?	Yes	No
3. Does your child like climbing on things, such as up stairs?	Yes	No
4. Does your child enjoy playing peek-a-boo/Hide-and-Seek?	Yes	No
5. Does your child ever pretend, for example, to talk on the phone or take care of a doll or pretend other things?	Yes	No
6. Does your child ever use his/her index finger to point, to ask for something?	Yes	No
7. Does your child ever use his/her index finger to point, to indicate interest in something?	Yes	No
8. Can your child play properly with small toys (e.g. cars or blocks) without just mouthing, fiddling, or dropping them?	Yes	No
9. Does your child ever bring objects over to you (parent) to show you something?	Yes	No
10. Does your child look you in the eye for more than a second or two?	Yes	No
11. Does your child ever seem oversensitive to noise? (e.g., plugging ears)	Yes	No
12. Does your child smile in response to your face or your smile?	Yes	No
13. Does your child imitate you? (e.g., you make a face-will your child imitate it?)	Yes	No
14. Does your child respond to his/her name when you call?	Yes	No
15. If you point at a toy across the room, does your child look at it?	Yes	No
16. Does your child walk?	Yes	No
17. Does your child look at things you are looking at?	Yes	No
18. Does your child make unusual finger movements near his/her face?	Yes	No
19. Does your child try to attract your attention to his/her own activity?	Yes	No
20. Have you ever wondered if your child is deaf?	Yes	No
21. Does your child understand what people say?	Yes	No
22. Does your child sometimes stare at nothing or wander with no purpose?	Yes	No
23. Does your child look at your face to check your reaction when faced with something unfamiliar?	Yes	No

© 1999 Robins et al. [2].

**References**

- Johnson, C. R. (1996). Sleep problems in children with mental retardation and autism. *Child and Adolescent Psychiatric Clinics of North America*, 5, 673–683.
- Robins, D. L., Fein, D., Barton, M. L., & Green, J. A. (2001). The modified checklist for autism in toddlers: an initial study investigating the early detection of autism and pervasive developmental disorders. *Journal of Autism and Developmental Disorders*, 31(2), 131–144.

**Representative Studies Using Scale**

- Limperopoulos, C., Bassan, H., Sullivan, N. R., Soul, J. S., Robertson, R. L., Moore, M., Ringer, S. A., Volpe, J. J., & du Plessis, A. J. (2008). Positive screening for autism in ex-preterm infants: prevalence and risk factors. *Pediatrics*, 121(4), 758–765.